

# EXHIBIT B

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Applicants: Peter David East and Susan Elizabeth Brown  
U.S. Serial No.: 10/590,539  
Filed: May 30, 2007 (\$371)

Listing of Claims

1. (Currently Amended) A substantially purified peptide which comprises a sequence selected from the group consisting of:
  - i) an amino acid sequence as provided in SEQ ID NO:4,
  - ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,
  - iii) an amino acid sequence as provided in SEQ ID NO:5,
  - iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
  - v) an amino acid sequence as provided in SEQ ID NO:48,
  - vi) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:48,
  - vii) an amino acid sequence as provided in SEQ ID NO:53,
  - viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,
  - ix) a biologically active fragment of any one of i) to viii), and
  - x) a precursor comprising the amino acid sequence according to any one of i) to ix),wherein the peptide, ~~or fragment thereof~~, exhibits antifungal and/or antibacterial activity.
- 2-4. (Deleted)
5. (Previously Presented) The peptide of claim 1 which is fused to at least one other polypeptide/peptide sequence.
6. (Currently Amended) An isolated polynucleotide, the polynucleotide comprising a sequence selected from the group consisting of:
  - i) a sequence of nucleotides provided in SEQ ID NO:9 or SEQ ID NO:10;
  - ii) a sequence of nucleotides provided in SEQ ID NO:11;

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- iii) a sequence of nucleotides provided in SEQ ID NO:12;
- iv) a sequence of nucleotides provided in SEQ ID NO:13;
- v) a sequence of nucleotides provided in SEQ ID NO:50;
- vi) a sequence of nucleotides provided in SEQ ID NO:51;
- vii) a sequence of nucleotides provided in SEQ ID NO:55;
- viii) a sequence of nucleotides provided in SEQ ID NO:56;
- ix) a sequence encoding a peptide comprising a sequence selected from the group consisting of: according to claim 1;
  - a) an amino acid sequence as provided in SEQ ID NO:4,
  - b) an amino acid sequence which is at least 80% identical to SEQ ID NO:4,
  - c) an amino acid sequence as provided in SEQ ID NO:5,
  - d) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
  - e) an amino acid sequence as provided in SEQ ID NO:48,
  - f) an amino acid sequence which is at least 80% identical to SEQ ID NO:48,
  - g) an amino acid sequence as provided in SEQ ID NO:53,
  - h) an amino acid sequence which is at least 80% identical to SEQ ID NO:53,
  - i) a biologically active fragment of any one of i) to viii), and
  - j) a precursor comprising the amino acid sequence according to any one of i) to ix);
- x) a sequence of nucleotides which is at least ~~80%~~ identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;
- xi) a sequence of nucleotides which is at least ~~80%~~ identical to SEQ ID NO:11;

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identical to SEQ ID NO:11 or SEQ ID NO:13;  
xii) a sequence of nucleotides which is at least ~~80%62%~~  
identical to SEQ ID NO:50, or SEQ ID NO:51; and  
xiii) a sequence of nucleotides which is at least ~~80%62%~~  
identical to SEQ ID NO:55, or SEQ ID NO:56, ~~and~~  
~~xiv) a sequence which hybridizes to any one of (i) to~~  
~~(viii) under high stringency conditions.~~  
wherein the polynucleotide encodes a peptide exhibiting  
antifungal and/or antibacterial activity.

7. (Deleted)
8. (Previously Presented) A vector comprising the polynucleotide of claim 6.
9. (Previously Presented) A host cell comprising the polynucleotide of claim 6.
10. (Previously Presented) The host cell of claim 9 which is a plant cell.
11. (Currently Amended) A process for preparing a substantially purified peptide which comprises a sequence selected from the group consisting of:
  - i) an amino acid sequence as provided in SEQ ID NO:4,
  - ii) an amino acid sequence which is at least ~~80%60%~~  
identical to SEQ ID NO:4,
  - iii) an amino acid sequence as provided in SEQ ID NO:5,
  - iv) an amino acid sequence which is at least 80%  
identical to SEQ ID NO:5,
  - v) an amino acid sequence as provided in SEQ ID NO:48,
  - vi) an amino acid sequence which is at least ~~80%70%~~  
identical to SEQ ID NO:48,
  - vii) an amino acid sequence as provided in SEQ ID NO:53,

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- viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,
  - ix) a biologically active fragment of any one of i) to viii), and
  - x) a precursor comprising the amino acid sequence according to any one of i) to ix),
- wherein the peptide, ~~or fragment thereof~~, exhibits antifungal and/or antibacterial activity, the process comprising cultivating a host cell according to claim 9 under conditions which allow expression of the polynucleotide encoding the peptide, and recovering the expressed peptide as a substantially purified peptide.
12. (Previously Presented) A composition comprising a peptide of claim 1, and one or more acceptable carriers.
13. (Previously Presented) A composition comprising a polynucleotide according to claim 6, and one or more acceptable carriers.
14. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus and/or a bacteria, the method comprising exposing the fungus and/or bacteria to a peptide of claim 1.
15. (Currently Amended) A transgenic plant, the plant having been transformed with a polynucleotide according to claim 6, wherein the plant produces a peptide which comprises a sequence selected from the group consisting of:
- i) an amino acid sequence as provided in SEQ ID NO:4,
  - ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,
  - iii) an amino acid sequence as provided in SEQ ID NO:5,
  - iv) an amino acid sequence which is at least 80%

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identical to SEQ ID NO:5,  
v) an amino acid sequence as provided in SEQ ID NO:48,  
vi) an amino acid sequence which is at least ~~80%70%~~  
identical to SEQ ID NO:48,  
vii) an amino acid sequence as provided in SEQ ID NO:53,  
viii) an amino acid sequence which is at least ~~80%70%~~  
identical to SEQ ID NO:53,  
ix) a biologically active fragment of any one of i) to  
viii), and  
x) a precursor comprising the amino acid sequence  
according to any one of i) to ix),  
wherein the peptide, ~~or fragment thereof~~, exhibits antifungal  
and/or antibacterial activity.

16. (Previously Presented) A method of controlling fungal and/or  
bacterial infections of a crop, the method comprising  
cultivating a crop of transgenic plants of claim 15.

17. (Currently Amended) A transgenic non-human animal, the animal  
having been transformed with a polynucleotide according to  
claim 6, wherein the animal produces a peptide which comprises  
a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
- ii) an amino acid sequence which is at least ~~80%60%~~  
identical to SEQ ID NO:4,
- iii) an amino acid sequence as provided in SEQ ID NO:5,
- iv) an amino acid sequence which is at least 80%  
identical to SEQ ID NO:5,
- v) an amino acid sequence as provided in SEQ ID NO:48,
- vi) an amino acid sequence which is at least ~~80%70%~~  
identical to SEQ ID NO:48,
- vii) an amino acid sequence as provided in SEQ ID NO:53,
- viii) an amino acid sequence which is at least ~~80%70%~~  
identical to SEQ ID NO:53,

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- ix) a biologically active fragment of any one of i) to viii), and
  - x) a precursor comprising the amino acid sequence according to any one of i) to ix),  
wherein the peptide, ~~or fragment thereof~~, exhibits antifungal and/or antibacterial activity.
18. (Previously Presented) A method of treating or preventing a fungal and/or bacterial infection in a patient, the method comprising administering to the patient a peptide of claim 1.
19. (Deleted)
20. (Previously Presented) An antibody which specifically binds a peptide of claim 1.
21. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus, the method comprising exposing the fungus to a peptide which comprises a sequence selected from the group consisting of:
- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
  - ii) an amino acid sequence as provided in SEQ ID NO:17,
  - iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
  - iv) an amino acid sequence which is at least 75% identical to any one of i) to iii),
  - v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
  - vi) an amino acid sequence which is at least 50% identical to v), and
  - vii) a biologically active fragment of any one of i) to vi).

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22. (Deleted)

23. (Previously Presented) A method of controlling fungal infections of a crop, the method comprising cultivating a crop of transgenic plants which produce a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence comprising residues 25 to 66 of SEQ ID NO:16,
- iii) an amino acid sequence as provided in SEQ ID NO:17,
- iv) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- v) an amino acid sequence which is at least 75% identical to any one of i) to iv),
- vi) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
- vii) an amino acid sequence which is at least 50% identical to vi), and
- viii) a biologically active fragment of any one of i) to vii).

24. (Deleted)

25. (Previously Presented) A method of treating or preventing a fungal infection in a patient, the method comprising administering to the patient a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence as provided in SEQ ID NO:17,
- iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- iv) an amino acid sequence which is at least 75%



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- identical to any one of i) to iii),
  - v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
  - vi) an amino acid sequence which is at least 50% identical to v), and
  - vii) a biologically active fragment of any one of i) to vi).
26. (Deleted)
27. (Previously Presented) A kit comprising a peptide of claim 1.
28. (New) The substantially purified peptide of claim 1 which comprises a sequence selected from the group consisting of:
- i) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,
  - ii) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,
  - iii) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,
  - iv) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,
- wherein the peptide exhibits antifungal and/or antibacterial activity.
29. (New) The isolated polynucleotide according to claim 6, the polynucleotide comprising a sequence selected from the group consisting of:
- i) a sequence encoding a peptide comprising a sequence selected from the group consisting of:
    - a) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,
    - b) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,

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- c) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,
  - d) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,
  - ii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;
  - iii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:11 or SEQ ID NO:13;
  - iv) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:50, or SEQ ID NO:51; and
  - v) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:55, or SEQ ID NO:56,
- wherein the polynucleotide encodes a peptide exhibiting antifungal and/or antibacterial activity.